INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 2005	**Park:** Shenandoah NP
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Permit#:
SHEN-2005-SCI-0009

Park-assigned Study Id. #:
SHEN-00315

Project Title:
"The Biogeochemistry of Mercury in the Shenandoah National Park."

Permit Start Date: Sep 01, 2005	**Permit Expiration Date** Dec 31, 2007
Study Start Date: Sep 01, 2005	**Study End Date** Dec 31, 2007

Study Status:
Continuing

Activity Type:
Research

Subject/Discipline:
Water Quality

Objectives:
To investigate the presence and distribution of mercury in the fish of 19 watersheds of SHEN. This will be compared to surface water mercury concentrations in seven streams at base flow and during high flow events and Big Meadows (when meadows have standing water).

Findings and Status:
There is a correlation between the amount of mercury found in the brook trout and the bedrock geology of the stream where the fish are found. Siliciclastic bedrock has predominantly low ANC and pH, and fish with higher mercury concentrations. There is no statistical variation in total mercury between the seven streams studied, but there appears to be a statistical difference in mercury concentrations of streams within a single catchment. The methyl and total mercury concentrations in the surface water of Big Meadows are two orders of magnitude higher than in any other water studied in the park. High flow event samples are still being collected to be tested for methyl and total mercury analysis. Other data analyses are currently being conducted as well.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?
No

Funding provided this reporting year by NPS: 0	**Funding provided this reporting year by other sources:** 20000

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:	Annual funding provided by NPS to university or college this reporting year:
n/a	0